

Re Point V.

- 1 In the present opinion, reference is made to the following documents:

D1: U.S. 4,326,940 A (ECKLES WILLIAM E ET AL) 04/27/1982
(1982-04-27)
D2: DE 100 42 002 A (BOSCH GMBH ROBERT) 03/14/2002
(2002-03-14)
D3: U.S. 6,458,262 B1 (REID JONATHAN DAVID) 10/01/2002
(2002-10-01)
D4: WO 03/023395 A (MICROBAR SYSTEMS INC) 03/20/2003
(2003-03-21)

2 INDEPENDENT CLAIM 1

The present application does not satisfy the requirements of Article 33(1) PCT, because the subject matter of Claim 1 is not novel within the meaning of Article 33(2) PCT. Each of the documents D1-D4 cited in the following subparagraphs discloses a method for controlling at least one operating variable of an electrolytic bath, in which the concentration of at least one component of the bath is ascertained, in which furthermore the concentration values are processed in a control unit into control variables, via which the operating variable is modified in accordance with specifications, the concentration being ascertained in that a sample is withdrawn from the bath, is excited by electromagnetic radiation and the light spectrum emitted by the sample is analyzed.

- 2.1 Document D1 (column 2, line 10 - column 3, line 20; column 3, line 68 - column 4, line 9; column 9, lines 9-24; figures) discloses a method for the automated control of concentrations of the admixtures in electroplating baths. For this purpose, the concentrations are

ascertained with the aid of spectral photometric detectors. This method of analysis is implicitly based on an excitation of the probe using electromagnetic radiation. The measured values are used for controlling the dosing of additives.

2.2 Document D2 (paragraphs 8, 12, 13, 21) discloses a method for the automatic control of concentrations of the ions in a galvanic bath. In this instance, the concentrations are ascertained randomly or continuously with the aid of a spectral photometer. A spectral decomposition device analyzes the extinction spectrum of a sample irradiated with light. The measured actual values are used for comparison and for setting desired setpoint values. That is, possible deviations of the ion concentration in the electrolyte are compensated via a controlled dissolution of appropriate ions.

2.3 Document D3 (column 2, line 45 - column 3, line 10; column 5, lines 6-38; column 7, lines 44-62; column 8, lines 36-57; column 9, lines 7-61, figure) discloses a method for the automatic control of certain operating variables (e.g. of the composition of the bath) of electroplating baths. In this instance, the concentrations of the bath components are ascertained with the aid of a spectral photometer. Possible deviations from the setpoint value trigger a control of certain operating variables.

2.4 Document D4 (page 8, lines 14-20) discloses that spectroscopic methods can be used for the automated real-time control of the bath composition of electroplating baths.

3 INDEPENDENT CLAIM 7

The present application does not satisfy the requirements of Article 33(1) PCT, because the subject matter of Claim 7 is not based on an inventive activity within the meaning of Article 33(3) PCT.

Document D4 (page 8, lines 14-20; page 8, line 21 - page 10, line 20) discloses that spectroscopic methods can be used for the automated real-time control of the bath composition of electroplating baths. For this purpose, document D4 provides Raman spectroscopy, which is based on excitation of the sample using laser light. The subject matter in Claim 7 is distinguished from document D4 by the fact that a control device is claimed, which contains means that allow for spectral analyses of samples excited by laser light, while D4 only discloses the possibility of spectral analyses of electrolyte samples excited by laser light - not however their use in control devices. After a method according to Claim 1 in document D4 is provided (cf. Section 2.4 of this Opinion and D4, page 8, lines 14-20) as well the possibility of the spectral analyses of electrolyte samples excited by laser light (D4, page 8, line 21 - page 10, line 20), the combination of the said control device with the spectral analysis of electrolyte samples excited by laser light does appear obvious and thus not inventive. The equipment of a known device according to D4, page 8, lines 14-20 (or according to one of the documents D1-D3) with a new, improved or better suited analysis device does not appear to be inventive.

4 DEPENDENT CLAIMS 2-6, 8-10

Claims 2-6 do not include any features that, in combination with the features of any claim to which they

relate, satisfy the requirements of the PCT with regard
to novelty and inventive step, respectively.